

Remarks:

1. This RCE is being filed in response to the FINAL Office Action that was mailed on December 15, 2003. Applicant appreciates Examiner's careful review of the application.

2. **Amendments to the Specification:** Language has been added to Paragraph [0050] that describes the approximate arrangement of the hub elements 5 of the dome 100 shown in FIG. 4. This language is supported by a description of the "self-adjusting" feature of the dome according to the invention in paragraphs [0016], [0018], and [0052] of the Specification as originally filed and introduces no new subject matter.

3. **Amendments to the Claims:** All previously filed claims have been cancelled and new claims 32 – 50 added.

- Claim 32 recites a structure comprising an arrangement of the conical elements wherein the distance and the direction of displacement between the vertexes of any two adjacently placed conical elements is infinitely variable between a minimum limit and a maximum limit. This language is supported by language in paragraphs [0022], [0047], and [0048] of in the Specification as originally filed, which discusses the strut length between vertexes and the minimal and maximal dimensions of the strut length, and also supported by FIG. 4.
- Claims 33 – 47 depend from claim 32. Claims 33 – 38 recite a conical element that is a circular cone, shown in FIG. 5 and in renumbered FIG. 6; claim 39 recites a truncated circular cone, shown in renumbered FIG. 6; and claims 40 – 43 recite a conical element that is a three-sided cone, shown in renumbered FIG. 7. Claims 44 – 47 depend directly from claim 32 and recite features of the structure that are generic to any of the various embodiments claimed in claims 33 – 43.
- Claims 48 – 50 recite a method of constructing the dome of claim 32.

No new subject matter was introduced with these new claims. Applicant respectfully requests examination and approval of the new claims.

4. In previous Office Actions, a restriction requirements was issued and an election made for Species I. Examiner defined Species I as the conical structure in FIG. 5; Species II as the conical structure of renumbered FIG. 6; and Species III as the conical structure of renumbered FIG. 7. Applicant submits that the claim 32 recites a conical structure that is generic to all three Species and, therefore, requests that all the claims be examined.

5. **Amendments to the Drawings:** Reference designations were added to **FIG. 4**. No other changes were made. This amendment introduces no new subject matter and Applicant respectfully requests approval of the amended **FIG. 4**. Formal drawings for **FIGS. 15 and 16** are included with this paper. No changes were made to these two figures.

6. **Arguments: 35 U.S.C. § 102(b) Rejection:** Examiner rejected claims 1, 8, 9, 15, and 24 as being anticipated by **Jaeger et al. (6 098 347)**. Specifically, Examiner stated that structure of Jaeger discloses a geodesic structure having hub elements that may be randomly arranged adjacent one another so as to form the geodesic structure, and that the strut lengths of the Jaeger et al. elements are variable in length. The Jaeger structure is comprised of hexagonal and pentagonal elements that must abut each other precisely in order to create a closed structure. Furthermore, the elements of the Jaeger structure are placed in rigidly defined rows, the pentagonal elements being placed in the first row, the hexagonal in the second row, and a penagonal element as the apex element. The distance and direction between the vertexes of any two adjacent elements in a row are substantially identical to the distance and direction between any other two adjacent elements in the same row. The distance and direction between the vertexes of a pair of adjacent elements, one element being in the first row and the second element being in the second row, are substantially identical to the distance and direction between any other similar pair of adjacent elements, one element being in the first row and another in the second row.

7. New claim 32 of the present application recites an arrangement of conical

elements, wherein a distance and a direction of displacement between any two conical elements is infinitely variable between a minimum limit and a maximum limit. This is not the case with the Jaeger structure, as the shape of the Jaeger elements necessitates that the elements fit relatively precisely next to each other. The distance between any two vertexes of adjacent elements is predetermined by the size and shape of the frames of the elements and is not at all variable. In the Jaeger structure, the frames are rigid in size and of a particular shape; a first set of identical first-row frames are used for the first row, a second set of identical second-row frames is used for the second row.

8. Applicant respectfully submits that currently amended claim 32 is clearly distinguishable from Jaeger et al. and contains allowable subject matter. Accordingly, Applicant requests that Examiner withdraw this rejection and allow claim 32 and its dependent claims 33 – 47.


9. **35 U.S.C. § 102(b) Rejection:** Examiner rejected claims 1, 8 – 10, 15 – 16 under 35 U.S.C. § 102(b) as being anticipated by Chamberlain. Examiner asserted that Chamberlain disclosed a geodesic structure having a plurality of hub elements, each hub element having a vertex, and the hub elements being randomly arranged adjacent one another so as to form a geodesic structure that is triangulated by a network of virtual struts. Applicant respectfully disagrees with Examiner's assertion that the Chamberlain structure is a geodesic structure. Chamberlain discloses a semispherical structure comprising spherical elements. The elements do not have a vertex, which constitutes a discrete change in direction of a contour, but rather an apex, which is the highest point of a continuously curved contour. One of the elemental features of a geodesic spherical structure is that it does not have a continuously curved contour, but rather vertexes.

10. Amended claim 32 of the present application recites conical elements having a plurality of conical elements, each element having a cone wall and a vertex, wherein a distance and a direction of displacement between any two of the elements is variable within minimum and maximum limits. The elements of Chamberlain do not have a

vertex and a cone wall, rather, they are continuously curved partial spheres. These elements will never form the geodesic structure as claimed in claim 32 of the amended claims of the present application. The structure as claimed in the present application is geodesic in principle, meaning that the lines drawn from vertex to vertex form a system of triangulated sections. Chamberlain's elements, whether assembled in precise relationship to each other to form a sphere with a particular radius of curvature, or overlapped to form a portion of that sphere with the same radius of curvature, will never provide the system of vertexes in a triangulated relationship to one another that is inherent in a geodesic structure.

11. Applicant respectfully submits that the invention as currently claimed in amended claims 32 – 50 is not anticipated by the prior art and respectfully requests that Examiner withdraw all his rejections under 35 U.S.C. § 102(b) and allow these claims.

Respectfully submitted,



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Enclosed:
Formal Drawgs. of Figs. 4, 15 & 16